uric acid is eliminated as such or is transformed into urea. Of eminent value in all future studies on the pathogenesis of the uric-acid diathesis and gout is the determination of the effect of the administration of uric acid either by mouth or subcutaneously. It has been generally accepted by physiological chemists that this substance, when artificially administered, disappears as such in the system and reappears in the urine under the form of urea. Some observers have found an increased output of uric acid following its introduction into the alimentary canal, attributing this either to the direct elimination of the unchanged acid, or at least to an indirect increase caused by the leucocytosis following the administration of this agent. In the case of uric acid introduced by the mouth, the experimenters found that the greater part of it is not absorbed in the alimentary canal; that its presence here causes no changes in metabolism, neither an increased nitrogen elimination nor an augmented production of uric acid. They reached the conclusion that the history of uric acid in the organism cannot be studied by watching the effects of its ingestion by the mouth, but that it is necessary to study the effects wrought by the subcutaneous administration of this agent. One of the authors was the subject of the research. After twenty-one days of careful feeding, so as to bring him into nitrogenous equilibrium, a solution containing a mixture of piperazin and uric acid was injected into the cellular tissue of the abdomen. Analysis of the urine showed on the day of the experiment a considerable increase of uric acid, the excess representing 80 per cent. of the uric acid administered. On the following day, when no uric acid was administered, the surplus of this substance in the urine continued, there being eliminated a little over 18 per cent. of the drug previously administered. The excess of uric acid on these two days represented practically all of this substance that had been injected. This was, however, not the only result, for on the three succeeding days there was a continuance of the surplus of uric acid in the urine. This latter fact showed that pathological changes occurred in the organism, which manifested themselves in causing a nitrogenous elimination amounting to 45 grains above the normal. Fever did not accompany this manifestation. The authors draw the following conclusions from their observations: (1) Circulating uric acid is eliminated as such, and not as urea; (2) it seems to act as a poison to the tissues, causing an increased production and consequent elimination of uric acid. Whether or not increased leucocytosis occurs in the course of these changes, the authors have not determined. They conclude that their researches afford a new perspective of those diseases accompanied by an increased uric-acid content of the blood, this increase causing by its toxic effects on the tissues a still greater production of uric acid, a "*circulus vitiosus*" being created. The original increase of this substance may be due to resistance to its elimination, as in nephritis or certain other unknown factors may come into play, as in gout.—*Zeitschrift für physiologische Chemie*, 1902, vol. xxxv, p. 1.

Bufonin and Bufotalin.—Dr. E. S. Faust has thoroughly studied the pharmacological action of the active ingredients of the secretion from the skin of lizards—bufonin and bufotalin. The latter closely resembles the drugs of the digitalin group, in that it increases the blood pressure, owing to a rise of the pulse-volume and more forcible systolic contraction of the heart. The nervous apparatus of the heart is not influenced by it. After large doses cardiac paralysis with intact sensorium takes place. There is no direct action on the skeletal muscles and no local reaction on injection, as it is rapidly absorbed. Gastric disturbances are very common after both oral and hypodermic administration. The lethal dose is ½ milligramme per kilogramme. Bufonin, in the main, has the same action, but is much weaker, as less soluble; if, however, it be dissolved in dilute alcohol and injected, it may produce systolic arrest of the heart. Chemically, bufotalin differs from the drugs of the digitalis group, in that it is a weak acid.—*Archiv für experimentelle Pathologie und Pharmakologie*, 1902, vol. xlvii.

Action of Demulcents.—DR. H. J. TAPPEINER conducted a large number of experiments on animals and human beings to determine whether the group of drugs known as demulcents really possess the property of allaying irritation. A distinct diminished irritability of motor nerves by chemical salts was found in the presence of mucilaginous substances. The same can also be said of sensory nerves, since pain appeared later and was less intense than in control experiments. The mucous membranes of the eyes and of the intestines gave less evidence of inflammation when demulcents were added. On the other hand, the cathartic action of drugs is enhanced since their irritation is prolonged, owing to slowed absorption. It was also found that this absorption is less active in the stomach and the upper part of the intestines, and that this holds true for water alone. All these experiments prove that the time-honored custom of using the demulcent to allay inflammation and irritation is based upon scientific facts.—*Archives Internationales de Pharmacodynamique et de Therapie*, 1902, vol. x. p. 67.

The Bile and Saponification.—DR. E. PFLÜGER discusses the conditions under which saponification occurs and the determination of the relative quantities of fatty acids and of soaps found in biliary mixtures. As ordinarily stated in the text-books, the formation of soaps in the small intestine is brought about by the union of the alkalies of the bile with the fatty acids produced by the splitting up of the fats. In a series of experiments the author has shown that bile in the presence of sodium carbonate and at the body temperature is able to bring about the solution of a considerable quantity of fatty acids. This solution cannot be accomplished without the presence of bile. His researches seemed to indicate that the solutions contained, beside soaps, considerable quantities of fatty acids in a free form. A general review of his last researches indicated that of the fatty acids dissolved in bile mixtures, only the smaller portion, at most 45 per cent., is dissolved through saponification. The author claims to have established the following conclusion, namely, that, strictly speaking, no freely dissolved fatty acids occur in bile mixtures, but that the former are present in a loosely combined state. It is remarkable, from both the physiological and the chemical standpoint, that the fatty acids form soluble acid salts, although there is present in the bile enough alkali to form neutral salts. The reason for this is the fact that the carbon dioxide contained in the sodium carbonate of the bile has a greater affinity for the sodium than have the fatty acids,